

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Original) A process for creating an acoustically absorbent porous panel comprising the steps of:
 - dispensing and conveying dry cement
 - dispensing and conveying dry fibrous material
 - aqueous mixing water, surfactant and air to create a foam;
 - combining and mixing the foam and dry ingredients to form a foamed cementitious material comprising on a wet basis about 53% to about 68% by weight cement, about 17% to about 48% by weight water, about 0.05% to about 5% by weight fibers, and about 0.01% to about 10% by weight surfactant; and
 - drying the foamed cementitious material.
2. (Original) The process of claim 1, further including regulating the temperature of the aqueous mixture to a temperature between about 41° F to about 168° F.
3. (Original) The process of claim 2, wherein the aqueous mixture is regulated to a temperature of between about 68° F to about 100° F.
4. (Original) The process of claim 1, wherein the process includes dry mixing cement and fibers to create a dry mix.
5. (Original) The process of claim 1, wherein the process is continuous and uses a conveyor.
6. (Original) The process of claim 5, further including dispensing the foamed cementitious material onto the conveyor.

7. (Original) The process of claim 6, further including gauging the thickness of the foamed cementitious material.

8. (Original) The process of claim 7, wherein the thickness of the foamed cementitious material is gauged to least 0.25 inches.

9. (Original) The process of claim 1, further including texturing the foamed cementitious material.

10. (Original) The process of claim 1, further including cutting the panel.

11. (Original) The process of claim 1, wherein the foamed cementitious material is dried to at least 5% or less moisture.

12. (Original) The process of claim 1, further including forming a dense skin on both a facing side and backing side of the panel wherein the dense skin comprises less than about 2% of the total thickness of the panel.

13. (Original) The process of claim 12, wherein the skin is between about 125 μ m to about 250 μ m thick.

14. (Original) The process of claim 12, further including the step of removing the dense skin of the facing side of the panel.

15. (Original) The process of claim 14, wherein the step of removing the dense skin of the facing side includes sanding.

16. (Original) The process of claim 12, further including the step of applying an organic coating to the facing side of the panel.

17. (Original) The process of claim 1, further including adding calcium silicate to the dry mix.

18. (Original) The process of claim 17, wherein the calcium silicate comprises about 1% to about 10% by weight of the foamed cementitious material.

19. (Original) The process of claim 1, further including forming pores within the foamed cementitious material.

20. (Original) The process of claim 19, wherein the diameter of the pores is between about 1.5mm and about 40 μ m.

21. (Original) The process of claim 20, wherein the pores have an average diameter from about 50 μ m to about 200 μ m.

22. (Original) The process of claim 19, wherein the pores are open to other pores creating pathways through the cementitious material whereby sound can be effectively absorbed.

23. (Original) The process of claim 1, wherein the dried foamed cementitious material has a density between 10 lbs/ft³ and about 40 lbs/ft³.

24. (Original) The process of claim 1, wherein the panel is an acoustic ceiling tile.

25. (Original) The process of claim 1, wherein a Noise Reduction Coefficient of the panel is at least 0.5.

26. (Original) The process of claim 25, wherein the Noise Reduction Coefficient of the panel is at least 0.7.

27. (Original) The process of claim 1, wherein the range for a Sound Transmission Coefficient is between about 30 to about 40.

28. (Original) The process of claim 1, wherein the cement is selected from the group consisting of portland, gypsum, sorrel, slag, fly ash, and calcium alumina cement.

29. (Original) A process for creating acoustical ceiling panels comprising the steps of:

dry mixing cement, and fibers to create a dry mix;
aqueous mixing water and surfactant to create a diluted surfactant solution;
combining and mixing the diluted surfactant solution, air and dry mix to create a foamed cementitious material; and
drying the foamed cementitious material to form an absorbent porous panel having a density between about 10 and 40 lb/ft³, a Hess rake finger scratch test result of at least 12, a Noise Reduction Coefficient of at least 0.5, and a sag test result of less than 0.15 inches at 90% RH.

30. (Original) The process of claim 29, wherein the cement is gypsum.

31. (Original) The process of claim 29, further including adding calcium silicate to the dry mix.

32. (Original) The process of claim 29, wherein the fibers are polyester fibers.

33. (Original) A process for creating acoustical ceiling panels comprising the steps of:

dry mixing cement and synthetic organic fibers to create a dry mix;
aqueous mixing water and surfactant to create a diluted surfactant solution;
combining and mixing the diluted surfactant solution and dry mix to form a foamed cementitious material comprising on a wet basis about 56% to about 61% by weight cement, about 32% to about 42% by weight water, about 0.28% to about 1.3% by weight fibers, and about 0.7% to about 2% by weight surfactant; and

drying the foamed cementitious material.

34. (Original) A process for creating an acoustically absorbent porous panel comprising the steps of:

- dispensing and conveying dry cement;
- dispensing and conveying dry fibrous material;
- aqueous mixing water, surfactant and air to create a foam;
- combining and mixing the foam and dry ingredients to form a foamed cementitious material comprising cement, water, fibers, and surfactant;
- drying the foamed cementitious material; and
- texturing the dried foamed cementitious material.

35-57. (Cancelled)